

# FOUR SPECIES OF ASCLEPIADACEAE NEW TO PANAMA

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## ABSTRACT

*Fischeria brachycalyx*, *Gonolobus rothschuhii*, *Mateleia pseudobarbata*, and *M. viridis* are newly reported for the Panamanian flora. *Mateleia viridis* (Moldenke) Spellman is a new combination based on *Fischeria viridis* Moldenke.

Recent collections of plants from poorly known areas of Veraguas and Darién Provinces in Panama have added three species of Asclepiadaceae to the flora of the country. Further studies of the family have resulted in a new combination for one of the three, as well as the addition of a fourth species to the flora which was incorrectly assigned in the treatment of the family for the *Flora of Panama* (Spellman, 1975).

1. ***Fischeria brachycalyx*** L. O. Williams, Fieldiana: Bot. 32: 43. 1968. TYPE: Costa Rica, *Austin Smith 1211* (F, GH, MO, NY).

*Stems* glandular puberulent and hispid, the longest trichomes brown, to 3 mm long. *Leaves* elliptic, apically acuminate, basally cordate, mostly 9–12 cm long, 4–6 cm wide, the upper surface scabrous, the lower surface softly hispid; petioles glandular puberulent and hispid, mostly 3–5 cm long. *Inflorescences* racemose, glandular puberulent and hispid-pilose throughout; peduncles 4.5–8 cm long, pedicels 3–4 cm long. *Flowers* 1.4–2 cm in diameter; calyx abaxially glandular puberulent and hispid-pilose, adaxially glabrous or nearly so, the lobes lance-ovate, 4.7–7 mm long, 1.5–2.5 mm wide; corolla light green, shallowly campanulate, the lobes ovate, 6–7 mm long, 3.5–5.5 mm wide, strongly crispate near the apex on one margin, the upper surface papillate in a median band, this overtopped by long white trichomes of variable density, the lower surface appressed brown pubescent, the crispate margin ciliate; gynostegium 2–2.5 mm high, inflated portions of the anthers suborbicular in surface outline; corona prominently 5-gonal to shallowly lobate, the surface striate-sulcate. *Follicles* obliquely ellipsoid, 19–24 cm long, ca. 3–4 cm in diameter, the walls thick, sublignose, finely striate, drying reticulate, sparsely pubescent; seeds compressed-ovate, 10–12 mm long, 6.5–7 mm wide, the marginal wing irregularly and deeply toothed apically (fruit described from Costa Rican material).

Occurring in partial shade of moist forest, this species is most frequently collected at elevations from 1,000 to 1,400 m in Costa Rica and Panama.

Using the keys given in the *Flora of Panama*, this species is identified as *Fischeria columbiana* Schlechter. The latter species is readily separated from *F. brachycalyx* in having its pedicels and calyces puberulent but lacking longer hispid trichomes. In addition, the surface of the corona of *F. columbiana* is vermiform-fimbriate rather than striate-sulcate.

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VERAGUAS: Río Primero Braso, 2.5 km beyond Agriculture School, Alto Piedra near Santa Fé, 700–750 m, 24 July 1974, Croat 25533 (MO).

2. *Matelea viridis* (Moldenke) Spellman, comb. nov.

*Fischeria viridis* Moldenke, Phytologia 1: 13. 1933. TYPE: Colombia, A. E. Lawrance 396 (F, GH, K, MO).

*Stems* densely glandular puberulent and sparsely pilose. *Leaves* elliptic to slightly obovate, apically rounded and abruptly acuminate, the upper surface softly scabrous, the lower surface hirsute; blades 8–12 cm long, 3–4 cm wide; petioles glandular puberulent and pilose, 1–1.5 cm long. *Inflorescences* racemose, densely brown, glandular puberulent and pilose throughout; peduncles 3.5–4.5 cm long; pedicels 2.5–3 cm long. *Flowers* 2.5–3 cm in diameter; calyx densely glandular puberulent and pilose abaxially, glabrous adaxially, the lobes lanceolate, 4.3–4.7 mm long, 1.3–1.5 mm wide, reflexed at anthesis; corolla greenish white with darker green reticulate “veins,” shallowly campanulate-rotate, deeply lobed, the lobes lance-ovate but folded lengthwise to appear ligular, 10.4–11 mm long, 5.5–6 mm wide, undulate-crispate on one or usually both margins, the upper surface glabrous except for a dense median band of minute papillae, the lower surface puberulent; gynostegium 3–3.5 mm high, yellow green and white; corona carnose, sharply 5-lobed, the lobes triangular, the surfaces colliculate, the corona column smooth and appendaged, the appendages  $\pm$  ligular, situated above each lobe, curving up around the gynostegium-head. *Follicles* ellipsoid, attenuate to the apex, smooth, glabrous, to 19.5 cm long, ca. 4.5 cm in diameter; seeds spatulate, 8.6–9.3 mm long, 4.7–5 mm wide, the marginal wing coarsely serrate in the apical half.

The collection cited below represents the third known collection of this species. The other two localities are from the central cordillera of Colombia at elevations from 1,200 to 2,000 m.

The species is excluded from *Fischeria* primarily on the basis of its lack of dorsally inflated anthers. It differs also in the more technical aspects of its pollinia and gynostegium morphology.

In the keys to the family given in the *Flora of Panama*, *M. viridis* cannot be placed in the proper genus. With some effort, it can be forced through the keys to *Fischeria*. It differs from other species of *Matelea* in its ligular-appearing, undulate-crispate corolla lobes.

VERAGUAS: Lower montane wet forest 6–7 km W of Santa Fé on new road past Agricultural School, 2,900 ft, 17 Feb. 1974, Nee 9791 (MO).

3. *Matelea pseudobarbata* (Pittier) Woods., Ann. Missouri Bot. Gard. 28: 235. 1941.

*Gonolobus pseudobarbatus* Pittier, Contr. U.S. Natl. Herb. 13: 105. 1910. TYPE: Costa Rica, Brenes s.n. (K, US).

*Slender vines*. Brown, glandular puberulent throughout, stems, petioles, and inflorescences also with hispid-pilose hairs to 3 mm long. *Leaves* ovate, apically tapering, basally cordate, 6.5–8.5 cm long, 3.5–4.5 cm wide, the basal sinus nar-



row, 1–1.5 cm deep, the upper surface puberulent with scattered hispid-pilose hairs, the lower surface glandular puberulent, the veins and veinlets becoming conspicuously dark upon drying; petioles 2.5–3 cm long. *Inflorescences* condensed racemes, appearing  $\pm$  umbelliform, ca. 10–15-flowered, but with the flowers opening in pairs; peduncles 2.8–3 cm long; pedicels 1.2–1.7 cm long. *Flowers* ca. 1 cm long at anthesis; calyx densely glandular puberulent and pilose abaxially, glabrous adaxially, the lobes lanceolate to ovate-acuminate, 2.5–3 mm long, 1–1.6 mm wide; corolla ca. 1.2 cm in diameter when extended, rotate but the lobes sharply reflexed at anthesis, the tube 0.6–0.7 mm long, the lobes elliptic to ovate, obtuse, 4.7–5 mm long, 3.3–3.7 mm wide, the upper surface villous-pilose, rarely glabrous or nearly so, the trichomes ca. 1.5 mm long, the lower surface glandular puberulent except at the base of the lobes and near the margins, the margins ciliate with cilia 1–2 mm long; corona annular, purple black, carnose, ca. 1 mm high, the surface bullate-colliculate; gynostegium slightly exceeding the corona, the head obscurely 5-gonal. *Follicles* (from Costa Rican material) said to be ellipsoid-attenuate, dark olive green, shiny, armed with soft, blunt-tipped spines or tubercles, the immature follicles 16.5 cm long.

*Matelea pseudobarbata* is known from elevations of 1,000 to 2,000 m in Costa Rica.

This species is closely related to, and was mistakenly reported as, *M. pinguifolia* (Standley) Woods. in the *Flora of Panama*, a species strictly limited to the lowlands. The rounded cordate leaves with inconspicuous veins and lack of long trichomes in the inflorescence characterize *M. pinguifolia* and clearly separate it from *M. pseudobarbata*.

CHIRIQUÍ: At opening to canyon to Bambito, 5,000 ft, 28 June 1969, *Tyson* 5860 (DUKE, FSU, MO).

4. **Gonolobus rothschuhii** Schlechter, Bot. Jahrb. Syst. 60: 368. 1926. TYPE: Nicaragua, *Rothschuh* 557 (B, destroyed, photo MO).

*Fischeria heterophylla* Hemsl., Biol. Centr. Amer., Bot. 2: 230. 1881. TYPE: Nicaragua, *Tate* 171 (240) (K).

*Stems* puberulent and hispid-pilose, the longest trichomes to 3 mm long. *Leaves* elliptic, apically rounded and abruptly acuminate, basally truncate to shallowly cordate, mostly 12–15 cm long, 5.5–7 cm wide, the upper surface strigose with hairs 1.5–2 mm long, the lower surface sparsely hirsute; petioles puberulent and pilose, 2–3 cm long. *Inflorescences* contracted racemes, apparently ca. 10-flowered but with usually no more than 2 open at one time; peduncles 3–5 mm long, sparsely hispid-pilose; pedicels 18–21 mm long, hispid-pilose. *Flowers* 2.5–3 cm in diameter; calyx abaxially pilose, adaxially glabrous but for a median line of pilose trichomes, the lobes linear-lanceolate, sharply reflexed at anthesis, mostly ca. 8.5 mm long, 0.9–1.5 mm wide; corolla green becoming greenish bronze, rotate, deeply cut, the lobes linear-lanceolate, mostly 14 mm long, 3–3.5 mm wide, the upper surface glabrous, the lower surface pilose; gynostegium 1.4–1.7 mm high, the anther appendages cuneate, bilobed, the lobes diverging to form a concave triangle, ca. 1 mm long, 1.5 mm wide, the lobes



curling in drying; faucal annulus only slightly raised and somewhat fleshy, nearly obscured by the corona; corona remotely 5-gonal, fleshy, the margins thickened, rugose; ovaries 3-ridged, glabrous. *Follicles* unknown.

This species is typically found at elevations from 1,200 to 1,800 m in Costa Rica, Honduras, Nicaragua, and possibly Guatemala.

A distinctive species, *Gonolobus rothschuhii* is separated from all other Panamanian members of the genus by its very narrow corolla lobes and color, and by the shape of its anther appendages.

DARIÉN: Cerro Tacarcuna, south slope, ridge-top forest well below summit, premontane wet forest, 1,250–1,450 m, 26 Jan. 1975, *Gentry & Mori 13921* (MO).

#### LITERATURE CITED

- SPELLMAN, D. L. 1975. Asclepiadaceae. In R. E. Woodson, Jr. & R. W. Schery, Flora of Panama. Ann. Missouri Bot. Gard. 62: 103–156.